

## Freeform Search

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<b>Database:</b>	US Pre-Grant Publication Full-Text Database US Patents Full-Text Database US OCR Full-Text Database EPO Abstracts Database JPO Abstracts Database Derwent World Patents Index IBM Technical Disclosure Bulletins
<b>Term:</b>	L25 NOT L20
<b>Display:</b>	<input type="text" value="20"/> Documents in <b>Display Format:</b> <input type="text" value="CIT"/> Starting with Number <input type="text" value="1"/>
<b>Generate:</b> <input type="radio"/> Hit List <input checked="" type="radio"/> Hit Count <input type="radio"/> Side by Side <input type="radio"/> Image	

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Search

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### Search History

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**DATE:** Sunday, August 05, 2007   
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#### Set Name Query

side by side

#### Hit Count Set Name

result set

*DB=PGPB,USPT,USOC,EPAB,JPAB,DWPI,TDBD; PLUR=YES; OP=OR*

<u>L26</u>	L25 NOT L20	6	<u>L26</u>
<u>L25</u>	L24 NOT L16	6	<u>L25</u>
<u>L24</u>	L23 and @ad<20020628	20	<u>L24</u>
<u>L23</u>	L22 and (DPI or "dry powder inhaler")	42	<u>L23</u>
<u>L22</u>	L17 and "tap density"	65	<u>L22</u>
<u>L21</u>	L17 same "tap density"	1	<u>L21</u>
<u>L20</u>	L19 NOT L16	6	<u>L20</u>
<u>L19</u>	L18 and @ad<20020628	6	<u>L19</u>
<u>L18</u>	L17 same (DPI or "dry powder inhaler")	12	<u>L18</u>
<u>L17</u>	(epinephrine or adrenaline)	14513	<u>L17</u>
<i>DB=PGPB,USPT; PLUR=YES; OP=OR</i>			
<u>L16</u>	L15 and @ad<20020628	14	<u>L16</u>
<u>L15</u>	L14 and "tap density"	27	<u>L15</u>
<u>L14</u>	L13 and (DPI or "dry powder inhaler")	91	<u>L14</u>
<u>L13</u>	L12 and (epinephrine or adrenaline)	340	<u>L13</u>
<u>L12</u>	(424/46 or 424/489).ccls.	5621	<u>L12</u>
<u>L11</u>	(Jason near Summa) AND @pd>20060328	0	<u>L11</u>
<u>L10</u>	"Mei-Ling" near Pan	1	<u>L10</u>

<u>L9</u>	(Michael near Lipp) AND @pd>20061210	5	<u>L9</u>
<u>L8</u>	(Wen-I near Li) AND @pd>20060328	1	<u>L8</u>
<u>L7</u>	((Jeffrey near Hkrach) AND @pd>20061002) AND @pd>20070713	0	<u>L7</u>
<u>L6</u>	Karen near Fu	1	<u>L6</u>
<u>L5</u>	L4 and (epinephrine or adrenaline)	1	<u>L5</u>
<u>L4</u>	Elliot near Ehrich	9	<u>L4</u>
<u>L3</u>	(Mariko near Childs) AND @pd>20060328	0	<u>L3</u>
<u>L2</u>	((Giovanni near Caponetti) AND @pd>20070124) AND @pd>20070328	0	<u>L2</u>
<u>L1</u>	(Richard near Batycky) AND @pd>20061210	3	<u>L1</u>

END OF SEARCH HISTORY



Day : Sunday  
Date: 8/5/2007  
Time: 22:16:38

## Inventor Name Search

Enter the **first few letters** of the Inventor's Last Name.  
Additionally, enter the **first few letters** of the Inventor's First name.

**Last Name**

**First Name**

Batycky

Richard

Search

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**Last Name**

**First Name**

Caponetti

Giovanni

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Time: 22:16:38

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**Last Name**

**First Name**

Childs

Mariko

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Date: 8/5/2007  
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## Inventor Name Search

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Additionally, enter the **first few letters** of the Inventor's First name.

**Last Name****First Name**

Fu

Karen

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**First Name**

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**Last Name**

**First Name**

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## Inventor Name Search

Enter the **first few letters** of the Inventor's Last Name.  
Additionally, enter the **first few letters** of the Inventor's First name.

**Last Name****First Name**

Lipp

Michael

**Search**

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Additionally, enter the **first few letters** of the Inventor's First name.

**Last Name**

**First Name**

Pan

Mei-Ling

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=> d his

(FILE 'HOME' ENTERED AT 23:08:54 ON 05 AUG 2007)

FILE 'CAPLUS, MEDLINE, USPATFULL, BIOSIS, EMBASE' ENTERED AT 23:09:16 ON  
05 AUG 2007

L1 241467 S (EPINEPHRINE OR ADRENALINE)  
L2 575 S L1 (S) (PARTICLE OR PARTICULATE OR POWDER OR DPI OR (DRY(W)PO  
L3 1 S L2 (S) (TAP(3A)DENSITY)  
L4 10 S L2 AND (TAP(W)DENSITY)  
L5 10 DUPLICATE REMOVE L4 (0 DUPLICATES REMOVED)  
L6 9 S L5 NOT L3  
L7 7284 S L1 AND (PARTICLE OR PARTICULATE OR POWDER OR DPI OR (DRY(W)PO  
L8 58 S L7 AND (TAP(W)DENSITY)  
L9 40 S L8 AND (SPRAY (8A) (DRY OR DRIED))  
L10 14 S L9 AND (SINGLE (8A) (BREATH(2A)ACTIVAT?))  
L11 14 DUPLICATE REMOVE L10 (0 DUPLICATES REMOVED)  
L12 9 S L11 NOT L5  
L13 9 S L12 NOT L3

=> d que L2

L1 241467 SEA (EPINEPHRINE OR ADRENALINE)  
L2 575 SEA L1 (S) (PARTICLE OR PARTICULATE OR POWDER OR DPI OR  
(DRY(W) POWDER))

=> d que L7

L1 241467 SEA (EPINEPHRINE OR ADRENALINE)  
L7 7284 SEA L1 AND (PARTICLE OR PARTICULATE OR POWDER OR DPI OR  
(DRY(W) POWDER))

L3 ANSWER 1 OF 1 USPATFULL on STN

TI Inhalable epinephrine

AB The present invention is directed toward particles for delivery of epinephrine to the respiratory system and methods for treating a patient in need of epinephrine. The particles and respirable compositions comprising the particles of the present invention described herein comprise the bioactive agent epinephrine, or a salt thereof, as a therapeutic agent. The particles are preferably formed by spray drying. Preferably, the particles and the respirable compositions are substantially dry and are substantially free of propellents. In a preferred embodiment, the particles have aerodynamic characteristics that permit targeted delivery of epinephrine to the site(s) of action.

ACCESSION NUMBER: 2004:100727 USPATFULL

TITLE: Inhalable epinephrine

INVENTOR(S): Batycky, Richard P., Newton, MA, UNITED STATES  
Caponetti, Giovanni, Piacenza, ITALY  
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Lipp, Michael M., Framingham, MA, UNITED STATES  
Pan, Mei-Ling, Cambridge, MA, UNITED STATES  
Summa, Jason, Arlington, MA, UNITED STATES

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 2004076588	A1	20040422
APPLICATION INFO.:	US 2003-607571	A1	20030626 (10)

	NUMBER	DATE
PRIORITY INFORMATION:	US 2002-425349P	20021108 (60)
	US 2002-393007P	20020628 (60)
	US 2002-393716P	20020702 (60)

DOCUMENT TYPE: Utility

FILE SEGMENT: APPLICATION

LEGAL REPRESENTATIVE: Elmore Craig, P.C., 209 Main Street, North Chelmsford, MA, 01863

NUMBER OF CLAIMS: 139

EXEMPLARY CLAIM: 1

NUMBER OF DRAWINGS: 20 Drawing Page(s)

LINE COUNT: 4107

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L6 ANSWER 1 OF 9 USPATFULL on STN

TI Manufacture of particles for pulmonary drug delivery by carbon dioxide assisted nebulization

AB Methods of making porous particles by using carbon dioxide assisted nebulization (CAN) technology in combination with spray drying technologies are disclosed. As the mixture of carbon dioxide (CO.sub.2) and the solvent with drug matrix is expanded through the nebulizer to atmospheric conditions, the resulting aerosol contains fine micro-bubbles and/or micro-droplets that contains dissolved CO.sub.2 which is co-currently fed into a spray drying chamber.

L6 ANSWER 2 OF 9 USPATFULL on STN

TI Method and apparatus for producing dry particles

AB Method and apparatus for producing dry particles. Two liquid components are combined in a static mixer, atomized into droplets, and the droplets dried to form dry particles. Use of the static mixer enables incompatible liquid components to be rapidly and homogeneously combined. The present invention optimizes process conditions for increasing and controlling particle porosity. The present invention also allows for optimization of particle size in real-time during particle production.

L6 ANSWER 3 OF 9 USPATFULL on STN

TI Low dose pharmaceutical powders for inhalation

AB The invention relates to a method of delivering an agent to the pulmonary system of a compromised patient, in a single breath-activated step, comprising administering a particle mass comprising an agent from an inhaler containing less than 5 milligrams of the mass, wherein at least about 50% of the mass in the receptacle is delivered to the pulmonary system of a patient. The invention also relates to receptacles containing the particle mass and the inhaler for use therein.

L6 ANSWER 4 OF 9 USPATFULL on STN

TI Inhalation device and method

AB Inhalation device and associated method for facilitating inhalation by a patient of powder medicaments contained in a receptacle. The inhalation device has a chamber for receiving the receptacle. A ring is circumferentially coupled to an inner surface of the chamber to achieve a higher reproducible emitted dose of medicament from the receptacle. The inhalation device also includes an improved implement for puncturing the receptacle, requiring less force and experiencing fewer failures. The inhalation device also includes a means for indicating readiness.

L6 ANSWER 5 OF 9 USPATFULL on STN

TI Inhalation device and method

AB Inhalation device and associated method for facilitating inhalation by a patient of powder medicaments contained in a receptacle. The inhalation device has a chamber for receiving the receptacle. A ring is circumferentially coupled to an inner surface of the chamber to achieve a higher reproducible emitted dose of medicament from the receptacle. The inhalation device also includes an improved implement for puncturing the receptacle, requiring less force and experiencing fewer failures. The inhalation device also includes a means for indicating readiness.

L6 ANSWER 6 OF 9 USPATFULL on STN

TI Method and apparatus for producing dry particles

AB Method and apparatus for producing dry particles. Two liquid components are combined in a static mixer, atomized into droplets, and the droplets dried to form dry particles. Use of the static mixer enables incompatible liquid components to be rapidly and homogeneously combined. The present invention optimizes process conditions for increasing and controlling particle porosity. The present invention also allows for optimization of particle size in real-time during particle production.

L6 ANSWER 7 OF 9 USPATFULL on STN

TI Method and apparatus for producing dry particles

AB Method and apparatus for producing dry particles. Two liquid components are combined in a static mixer, atomized into droplets, and the droplets dried to form dry particles. Use of the static mixer enables incompatible liquid components to be rapidly and homogeneously combined. The present invention optimizes process conditions for increasing and controlling particle porosity. The present invention also allows for optimization of particle size in real-time during particle production.

L6 ANSWER 8 OF 9 USPATFULL on STN

TI Inhalation device and method

AB Inhalation device and associated method for facilitating inhalation by a patient of powder medicaments contained in a receptacle. The inhalation device has a chamber for receiving the receptacle. A ring is circumferentially coupled to an inner surface of the chamber to achieve a higher reproducible emitted dose of medicament from the receptacle. The inhalation device also includes an improved implement for puncturing the receptacle, requiring less force and experiencing fewer failures. The inhalation device also includes a means for indicating readiness.

L6 ANSWER 9 OF 9 USPATFULL on STN

TI Aliginate particle formulation

AB Gelled alginate particles suitable for administration by needleless injection are loaded with a pharmacologically active agent and have a mean mass aerodynamic diameter of from 0.1 to 250  $\mu\text{m}$  and an envelope density of from 0.1 to 2.5 g/cm.<sup>sup.3</sup>.



L13 ANSWER 1 OF 9 USPATFULL on STN

TI Control of process humidity to produce large, porous particles  
AB Spray dried particles having specified aerodynamic characteristics are produced by atomizing a liquid feed and contacting the liquid feed with a drying gas, such as, for example, air or nitrogen. The humidity of the drying gas is controlled to a value, expressed, for instance, as dew point, which is known to produce particles having a specified tap density or aerodynamic diameter. Particles having a volume median geometric diameter greater than about 5 microns and a tap density less than about 0.4 g/cm.<sup>sup.3</sup> are preferred.

L13 ANSWER 2 OF 9 USPATFULL on STN

TI Pulmonary delivery in treating disorders of the central nervous system  
AB A method for treating a disorder of the central nervous system includes administering to the respiratory tract of a patient a drug which is delivered to the pulmonary system, for instance to the alveoli or the deep lung. The drug is administered at a dose which is at least about two-fold less than the dose required by oral administration. Particles that include the drug can be employed. Preferred particles have a tap density of less than about 0.4 g/cm.<sup>sup.3</sup>. In addition to the medicament, the particles can include other materials such as, for example, phospholipids, amino acids, combinations thereof and others.

L13 ANSWER 3 OF 9 USPATFULL on STN

TI Pulmonary delivery in treating disorders of the central nervous system  
AB A method for treating a disorder of the central nervous system includes administering to the respiratory tract of a patient a drug which is delivered to the pulmonary system, for instance to the alveoli or the deep lung. The drug is administered at a dose which is at least about two-fold less than the dose required by oral administration. Particles that include the drug can be employed. Preferred particles have a tap density of less than about 0.4 g/cm.<sup>sup.3</sup>. In addition to the medicament, the particles can include other materials such as, for example, phospholipids, amino acids, combinations thereof and others.

L13 ANSWER 4 OF 9 USPATFULL on STN

TI Pulmonary delivery for levodopa  
AB In one aspect, the invention is related to a method of treating a patient with Parkinson's disease, the method including administering to the respiratory tract of the patient particles that include more than about 90 weight percent (wt %) of levodopa. The particles are delivered to the patient's pulmonary system, preferably to the alveoli or the deep lung.

L13 ANSWER 5 OF 9 USPATFULL on STN

TI Pulmonary delivery in treating disorders of the central nervous system  
AB A method for treating a disorder of the central nervous system includes administering to the respiratory tract of a patient a drug which is delivered to the pulmonary system, for instance to the alveoli or the deep lung. The drug is administered at a dose which is at least about two-fold less than the dose required by oral administration. Particles that include the drug can be employed. Preferred particles have a tap density of less than about 0.4 g/cm.<sup>sup.3</sup>. In addition to the medicament, the particles can include other materials such as, for example, phospholipids, amino acids, combinations thereof and others.

L13 ANSWER 6 OF 9 USPATFULL on STN

TI Inhalable formulations for sustained release  
AB The present invention is based, in part, on the unexpected discovery

that aerosol particle formulations for pulmonary delivery of a therapeutic, prophylactic or diagnostic agent comprising an asymmetric phospholipid exhibit sustained release and/or sustained action of the agent. In some embodiments, as an alternative to one or more asymmetric phospholipids or in addition to one or more asymmetric phospholipids, the instant particles comprise one or more glycerol fatty acid esters. The present invention is directed to spray dried non-polymeric particles for pulmonary delivery and sustained release of a therapeutic, prophylactic or diagnostic agent and methods for delivery of said particles to the pulmonary system, the particles comprising a therapeutic, prophylactic or diagnostic agent and an asymmetric phospholipid and/or one or more glycerol fatty acid esters. In one embodiment, the particles comprise a combination of phospholipids wherein at least one of the phospholipids is an asymmetric phospholipid. In another embodiment, the particles comprise one or more phospholipids and one or more glycerol fatty acid esters.

L13 ANSWER 7 OF 9 USPTAFULL on STN

TI Pulmonary delivery in treating disorders of the central nervous system

AB A method of pulmonary delivery of a medicament, for example a dopamine precursor or a dopamine agonist, which includes administering to the respiratory tract of a patient in need of rescue therapy particles comprising an effective amount of a medicament. The particles are delivered to the pulmonary system and are released into the blood stream and delivered to the medicament's site of action in a time sufficiently short to provide the rescue therapy. In addition to the medicament, the particles can include other materials such as, for example, phospholipids, amino acids, combinations thereof and others. Preferred particles have a tap density of less than about 0.4 g/cm.<sup>sup.3</sup>.

L13 ANSWER 8 OF 9 USPTAFULL on STN

TI Control of process humidity to produce large, porous particles

AB Spray dried particles having specified aerodynamic characteristics are produced by atomizing a liquid feed and contacting the liquid feed with a drying gas, such as, for example, air or nitrogen. The humidity of the drying gas is controlled to a value, expressed, for instance, as dew point, which is known to produce particles having a specified tap density or aerodynamic diameter. Particles having a volume median geometric diameter greater than about 5 microns and a tap density less than about 0.4 g/cm.<sup>sup.3</sup> are preferred.

L13 ANSWER 9 OF 9 USPTAFULL on STN

TI Pulmonary delivery in treating disorders of the central nervous system

AB A method for treating a disorder of the central nervous system includes administering to the respiratory tract of a patient a drug which is delivered to the pulmonary system, for instance to the alveoli or the deep lung. The drug is administered at a dose which is at least about two-fold less than the dose required by oral administration. Particles that include the drug can be employed. Preferred particles have a tap density of less than about 0.4 g/cm.<sup>sup.3</sup>. In addition to the medicament, the particles can include other materials such as, for example, phospholipids, amino acids, combinations thereof and others.